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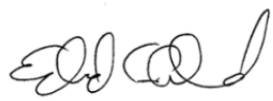
**Ice Miller LLP**

# PCB Sampling Results

**3333 North Franklin Road**
**Indianapolis, IN**

November 3, 2014

*Privileged and Confidential*
*Prepared at the Request of Counsel*
*In Anticipation of Litigation*



Edward C. Copeland, P.E.
Principal Engineer

Mark A. Fisherkeller, P.G.
Resource Manager

**PCB Sampling Results**

3333 North Franklin Road
Indianapolis, IN

Prepared for:
Ice Miller LLP

Prepared by:
ARCADIS U.S., Inc.
132 E. Washington Street
Suite 600
Indianapolis, Indiana 46204
Tel 317 231 6500
Fax 317 231 6514

Our Ref.:
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## Table of Contents



### Tables

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**Table of Contents**

## Figures



## Appendices

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## 1.0 Introduction

ARCADIS U.S., Inc. (ARCADIS) was authorized by Ice Miller LLP (Client) to conduct extensive sampling at the building located at 3333 N. Franklin Road, Indianapolis, Indiana (Facility, or Site). The sampling was performed to identify, locate and quantify the nature and extent of polychlorinated biphenyls (PCBs) that may or may not be present at the Facility.

ARCADIS field personnel collected samples and field data from the Site on three separate occasions: September 17-19, 2014, September 29-30, 2014, and October 7-8, 2014. The sampling included:

- Ambient air sampling inside and outside the building;
- Wipe sampling of various substrates, surfaces and angles;
- Bulk sampling of various solids including caulk, building expansion joints, paint chips, fiberglass wall (batt) insulation, wood shavings, oil, and general debris.

## 2.0 Ambient Air Sampling

Two air sampling and analysis methods were completed: one via National Institute of Occupational Safety and Health (NIOSH) method 5503, and one via Environmental Protection Agency (EPA) method, TO-10A. The purpose of using two different air sampling methods was to be able to contrast and compare the data generated so that regulatory and health professionals would have adequate information in their respective areas of interest.

The three air sampling periods included the following general activities:

- September 17, 2014:
  - Air sampling via NIOSH method 5503 (8-hour); and
  - Air sampling via EPA TO-10A (8-hour).
- September 29-30, 2014:
  - Air sampling via EPA TO-10A (8-hour).
- October 7-8, 2014:
  - Air sampling via EPA TO-10A (8-hour).

The air sample set on September 17, 2014 was deployed together at each predetermined location. If minor location adjustments were needed due to obstructions in the areas, such as items in the aisle ways, or gates and fences on the exterior, the air sample(s) were adjusted around the physical configurations of the building.

All air samples and sampling equipment were erected on tripod stands or concrete blocks to elevate them to within the breathing zone. All samples were collected using the procedures detailed in their respective sampling methods (NIOSH 5503 and EPA TO-10A). Copies of the methods can be forwarded if needed and can be seen at the NIOSH and EPA websites.

All air samples were collected and individually labeled with an identifying alpha and numeric label that includes a location designation based on a zone (i.e. – Zone 1), a bay location (i.e. – A5), the type of room or area where it was collected (i.e. – office or exterior); and what type of sample it was (i.e. – air sample). Once collected, the air samples were packaged with additional labeling that corresponded with the sample identification label, and placed in shipping containers for transportation to the appropriate laboratory as predetermined during development of the sampling plan.

The NIOSH 5503 and the EPA TO-10A air samples were shipped to EMSL Analytical, Inc. (EMSL) located in Cinnaminson, New Jersey via Pace Analytical, Inc. (Pace) located in Indianapolis, Indiana. Please note the batch of EPA TO-10A air samples from the September 17, 2014 were mistakenly shipped without ice. All subsequent EPA TO-10A air samples were shipped with ice. All air samples were driven to the local Indianapolis Pace facility by ARCADIS personnel. Standard chain of custody forms and procedures were followed during sample handling and delivery.

Details of each sampling period and their respective method are as follows:

### 2.1 September 17, 2014 - NIOSH 5503

On September 17, 2014, NIOSH 5503 air samples were collected utilizing industry standard equipment and sampling train assemblies, including a low volume air sampling pump, tubing, appropriate low flow adapters, connectors, and a tri-pod stand. This method required a low flow adapter to achieve a flow rate of approximately 0.2 liters per minute (lpm). Each pump was pre-calibrated in the field prior to air sampling; and subsequently was post-calibrated once air sampling was completed. The air sampling pumps were calibrated with a primary calibration instrument, a Dry Cal DC Lite (serial no. 108783). The air sample pumps ran for approximately 8-hours and were

collected at the end of the day. In conjunction with the NIOSH 5503 air samples, another set of air samples, EPA TO-10A, were set up alongside at the same location for the day.

Additional details of the NIOSH 5503 air sampling period are as follows:

- Air Sampling – via NIOSH 5503
  - Thirteen air samples were collected inside the building in representative areas. The air sample locations are depicted on Figures 1 and 2.
    - Six in Zone 1 (west end)
    - Six in Zone 2 (centrally located)
    - One in Zone 3 (east end)
  - Two air samples were collected outside the building – one on the northwest side and one on the south side, centrally located.
  - All air samples were placed within the breathing zone.
  - All air samples were collected alongside another set of air samples – thirteen air samples for EPA TO-10A at the same location.
  - Two field blanks were submitted with the set of air samples.
  - Field data logs are provided in Appendix A.

The laboratory report for this set of samples is provided in Appendix B.

### 2.2 September 17, 2014 – EPA TO-10A

On September 17, 2014, EPA TO-10A air samples were collected utilizing industry standard equipment and sampling train assemblies, including a low volume air sampling pump, tubing, connectors, and a tri-pod stand. A low flow adapter was not required for this method as described above for the NIOSH 5503 air samples. Each pump was pre-calibrated in the field prior to air sampling; and subsequently was post-calibrated once air sampling was complete. The air sampling pumps were calibrated with a secondary calibration instrument, a Dwyer rotameter, which was calibrated against a primary calibration instrument, the DC Lite Dry Cal (serial no. 108783). The air samples ran for approximately 8-hours and were collected at the end of the day. In conjunction with the EPA TO-10A air samples, another set of air samples, NIOSH 5503, was set up alongside at the same location for the day.

Additional details of the EPA TO-10A air sampling period are as follows:

- Air Sampling – via EPA TO-10A
  - Thirteen air samples were collected inside the building in representative areas. The air sample locations are depicted on Figures 1 and 2.
    - Six in Zone 1 (west end)
    - Six in Zone 2 (centrally located)
    - One in Zone 3 (east end)
  - Two air samples were collected outside the building – one on the northwest side and one on the south side, centrally located.
  - All air samples were placed within the breathing zone.
  - All air samples were collected alongside another set of air samples – thirteen air samples for NIOSH 5503 at the same location.
  - One field blank was submitted with this set of air samples.
  - Field data logs are provided in Appendix A.

The laboratory report for this set of samples is provided in Appendix B.

### 2.3 September 29 and October 7, 2014 – EPA TO-10A

On September 29 and October 7, 2014, EPA TO-10A air samples were collected utilizing industry standard equipment and sampling train assemblies, including a low volume air sampling pump, tubing, connectors, and a tri-pod stand. A low flow adapter was not required for this method as described above for the NIOSH 5503 air samples. Each pump was pre-calibrated in the field prior to air sampling; and subsequently was post-calibrated once air sampling was complete. The air sampling pumps were calibrated with a secondary calibration instrument, a Dwyer rotameter, which was calibrated against a primary calibration instrument, the DC Lite Dry Cal (serial no. 108783). The air samples ran for approximately 8-hours and were collected at the end of the day.

Additional details of the EPA TO-10A air sampling period are as follows:

- Air Sampling – via EPA TO-10A
  - Five air samples were collected inside the building in representative areas on two separate days: September 29th and October 7th of 2014 as outlined below.
  - September 29th, 2014:
    - Two in Zone 1 (west end)
  - October 7th, 2014:

- One in Zone 1 (west end)
- One in Zone 2 (north central)
- One outside the building on the north side to capture representative air data as a downwind location from the adjacent residential neighborhood to the north.

– All air samples were placed within the breathing zone.

– One field blank and one trip blank were submitted with this set of air samples.

– The air sample locations are depicted on Figures 3 and 4.

The laboratory report for this set of samples is provided in Appendix C.

## 3.0 Air Sampling Reports

Field data collected during the September 17, 2014 NIOSH 5503 sampling event is presented in Table 1 and includes information such as volumetric air flow through the sample pump, temperature, barometric pressure, etc. The laboratory results of the NIOSH 5503 air samples are summarized in Table 2.

Inspection of Table 2 revealed no detection of any PCB Aroclors in any of the samples.

Field data collected during the September 17, 2014 TO-10A sampling event is presented in Table 3. The laboratory results are presented in Table 4.

Data presented in Table 4 indicates the presence of Aroclor 1254 in five (5) of the 15 samples. The data also indicate the presence of Aroclor 1260 in five (5) of the 15 samples; however, only one sample (1-A4-P-A-A-6) had both Aroclors present. Nine of the fifteen (15) air samples collected ranged from 0.049 micrograms per cubic meter (ug/m$^3$) to 0.27 ug/m$^3$ for either Aroclor 1254 and 1260. The reporting limit for the air samples ranged from 0.047 ug/m$^3$ to 0.050 ug/m$^3$ depending on the volume (liters of air) of the sample. There was no detection of PCBs in the field blank.

Field data collected during the September 29, 2014 TO-10A sampling event is presented in Table 5. The laboratory results are presented in Table 6. The data presented in Table 6 reveal a low level of detection of PCBs in all of the indoor air samples collected. The outdoor air sample and both the trip and field blanks indicated no detection. Four of the five air samples collected ranged from 0.065 ug/m$^3$ to 0.62 ug/m$^3$ for either Aroclor 1254 and 1260.

Specific regulatory criteria do not exist for results using this air sampling method. The OSHA PEL is based upon a time weighted average (TWA) exposure of an individual

employee, while the samples were collected from a static location with no employees present. However, the results in Tables 4 and 6 were compared to the OSHA Permissible Exposure Level (PEL) of 500 ug/$m^3$ for Aroclor 1254 (which is also the lowest OSHA PEL) and the NIOSH recommended exposure limit (which is advisory in nature) of 1.0 ug/$m^3$ for all PCBs. No sample result exceeded the OSHA PEL or the NIOSH recommended exposure limit.

## 4.0 Bulk Sampling

Bulk samples were collected across the building in representative areas to assist with source determination of the previously identified constituent of concern, PCBs. The bulk samples collected included the following types of samples: wipe, solids (such as paint chips, caulk and others), and oil. The following sections provide additional sampling details for each type.

All bulk samples were submitted to the laboratory for standard analysis via EPA SW846 (3580, 3550B, 3541)/8082A.

### 4.1 Wipe Sampling

Ninety-nine (99) wipe samples were collected from various substrates, surfaces and angles to capture representative data from across the building. Walls, floors, ceilings, beams, desks, equipment, fans, etc. were targeted with a focus on horizontal surfaces. Some dusty and oily surfaces were targeted along with the older additions of the building. Sampling locations for the first and second floors are shown in Figures 5 and 6, respectively.

Wipe sampling was conducted utilizing a standard wipe procedure of wiping two directions within a single-use gauze and template sized at 100 square centimeters ($cm^2$). Wipes were pretreated with hexane as the solvent to collect the material within the template. Clean nitrile gloves were donned prior to the collection of each wipe sample.

Once the wipe samples were collected, they were placed in unpreserved glass containers and labeled with the same unique identifying alpha and numerical designation as mentioned above in the air sampling section. The wipe samples were packaged and placed in shipping containers for transportation to the appropriate laboratory as predetermined during development of the sampling plan. All wipe samples were driven by ARCADIS personnel to Pace Laboratories located in

Indianapolis, Indiana. Standard chain of custody forms and procedures were followed during sample handling and delivery.

The wipe sample laboratory results are presented in Table 7. The laboratory results were provided in total ug present on the wipe, thus the wipe area (100 $cm^2$) was used to calculate the concentration in ug/ $cm^2$. The mass and calculated values are shown in Table 8. For clarity, only results for samples above the detection limit are shown. The full laboratory and field data logs report are provided in Appendix D.

The results revealed approximately 70% of the samples (70 samples out of 99) analyzed had detections ranging from 1.0 ug to 1710 ug. The frequency of the ranges is listed below:

**Table 9 - Summary of Wipe Samples - Number of Samples Reported Within a Range of Detection**

| PCB-1254 | PCB – 1260 | |
|---|---|---|
| **Number of Samples Reported** | **Number of Samples Reported** | **Range Detected – Total ug** |
| 5 | 13 | 1.0 - 1.9 |
| 4 | 11 | 2.0 - 2.9 |
| 1 | 4 | 3.0 – 3.9 |
| 1 | 5 | 4.0 – 5.9 |
| 1 | 3 | 6.0 – 6.9 |
| | 6 | 7.0 – 9.9 |
| | 10 | 10.0 – 19.9 |
| | 4 | 22.7 – 34.9 |
| | 4 | 59.0 – 86.8 |
| | 1 | 110.0 |

| | | |
|---|---|---|
| | 2 | 201.0 – 226.0 |
| | 1 | 1710 |

The highest reported result of 1710 ug (total) was collected from an oil stain located below an open pipe that is an abandoned air compressor line. This was located against the western perimeter wall near the existing compressors. The next two highest results, 201 ug and 226 ug, were collected in the maintenance shop from the concrete floor. The calculated wipe samples also were compared to the EPA's High Occupancy Criteria for PCB Wastes specified in 40 CFR Section 761.3 of 10 ug/100cm$^2$. Only the highest result of 17.1 cm$^2$ exceeded these criteria.

### 4.2 Solid Material Sampling

Twenty-eight (28) solid samples were collected from various building materials including paint chips, caulk, wood shavings, fiberglass wall insulation, expansion joints, floor sealant, and general debris. Sampling locations for the first and second floors are shown in Figures 7 and 8, respectively.

Materials were removed by hand using basic hand tools (paint scrapers, prying tools, cutting tools, etc.). Tools were cleaned/ decontaminated using hexane between sampling events. Clean nitrile gloves were donned prior to the collection of each solid sample.

Once the solid samples were collected, they were placed in unpreserved glass containers and labeled with the same unique identifying alpha and numerical designation as mentioned in the above sections. The solid samples were put on ice inside coolers and driven by ARCADIS personnel to Pace Laboratories, located in Indianapolis, Indiana. Standard chain of custody forms and procedures were followed during sample handling and delivery.

The solid material sample results revealed 26 of the 28 samples as having detections above the reporting limit. The reporting limit is variable across these samples depending on their type and weight. The solids sample laboratory results are presented in Table 10. For clarity, only results for samples above the detection limit are shown in Table 11. The location and quantity of each type of solid material sample is outlined in Table 12.

The solid sample results were compared to the EPA's High Occupancy Criteria for PCB Wastes specified in 40 CFR Section 761.3 of 1000 microgram per kilogram (ug/kg). Inspection of Table 12 shows that all 26 samples where PCBs were detected exceeded the criteria, with a maximum concentration found of 67,400,000 ug/kg. The solid material sample results, field data logs and the full laboratory report are provided in Appendix E. A field photograph of each of the samples as collected is also included in Appendix F.

### 4.3 Oil Sampling

Two oil samples were collected as part of the solids matrix from the following areas: one was from clear oil from the forklift battery charging area; and one was from the black colored oil from the maintenance shop area. Both samples were collected from their storage containers using a 1-inch bailer and poured into unpreserved glass containers that were also labeled in the same fashion as the both the air and wipe samples using the unique labeling system developed in the sampling plan prior to field activities commencing. Clean nitrile gloves were donned prior to the collection of each oil sample.

The oil samples were put on ice inside coolers and driven by ARCADIS personnel to Pace, located in Indianapolis, Indiana. Standard chain of custody forms and procedures were followed during sample handling and delivery.

The oil sample results revealed no detection of PCBs within the samples. The oil sample results are shown along with the solid material results in Table 10, and the full laboratory report and field data logs are provided in Appendix E. A field photograph of each of the samples as collected is also included in Appendix F.

## 5.0 Summary

ARCADIS U.S., Inc. (ARCADIS) conducted extensive sampling at the Site to identify, locate and quantify the nature and extent of polychlorinated biphenyls (PCBs). Air, solid, and wipe samples were all collected. Air sampling results indicate that, while PCBs have been detected, all air samples were below the OSHA PEL. Approximately seventy percent (70%) of the wipe samples detected PCBs, but only one sample exceeded the relevant EPA criteria. However, the 26 solid samples (of 28) where PCBs were detected all exceeded the EPA criteria. The oil samples were reported as having no PCBs detected.

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**Tables**

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**Figures**

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**Appendix A**

Field Data Logs

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**Appendix B**

NIOSH 5503 September 17
Laboratory Report

TO-10A September 17
Laboratory Report

**Appendix C**

TO-10A September 29 and
October 7 Laboratory Report

**Appendix D**

Wipe Samples Laboratory Report and Field Data Logs

**Appendix E**

Solid Sample Laboratory Report
and Field Data Logs

**Appendix F**

Photo Logs